

### Abstract of the Disclosure

Provided are a sample holder for laser desorption/ionization mass spectrometry and a method of manufacturing the sample holder. The sample holder includes a metal plate and a thin layer, which is formed on the metal plate and onto which a sample to be analyzed is loaded. The thin layer is formed of a carbon-based material, such as carbon or graphite. The thin layer is deposited on the metal plate by arc-discharging carbon rods and sputtering carbon atoms emitted from the carbon rods onto the metal plate or by coating the metal plate with a carbon or graphite paste, which is a mixture of carbon or graphite powder and a volatile solvent. Accordingly, it is possible to rule out any possibilities of a matrix or silicon oil having undesirable influences on a mass spectrum of the sample, easily and precisely measure not only a polymer but also a low molecular weight material with a molecular weight of 500 Da or lower, and precisely analyze the mass of the polymer without using an ionization additive, such as salt.